Gisborne District Council

Draft Upper Mōtū Catchment Plan

July 2022

DRAFT

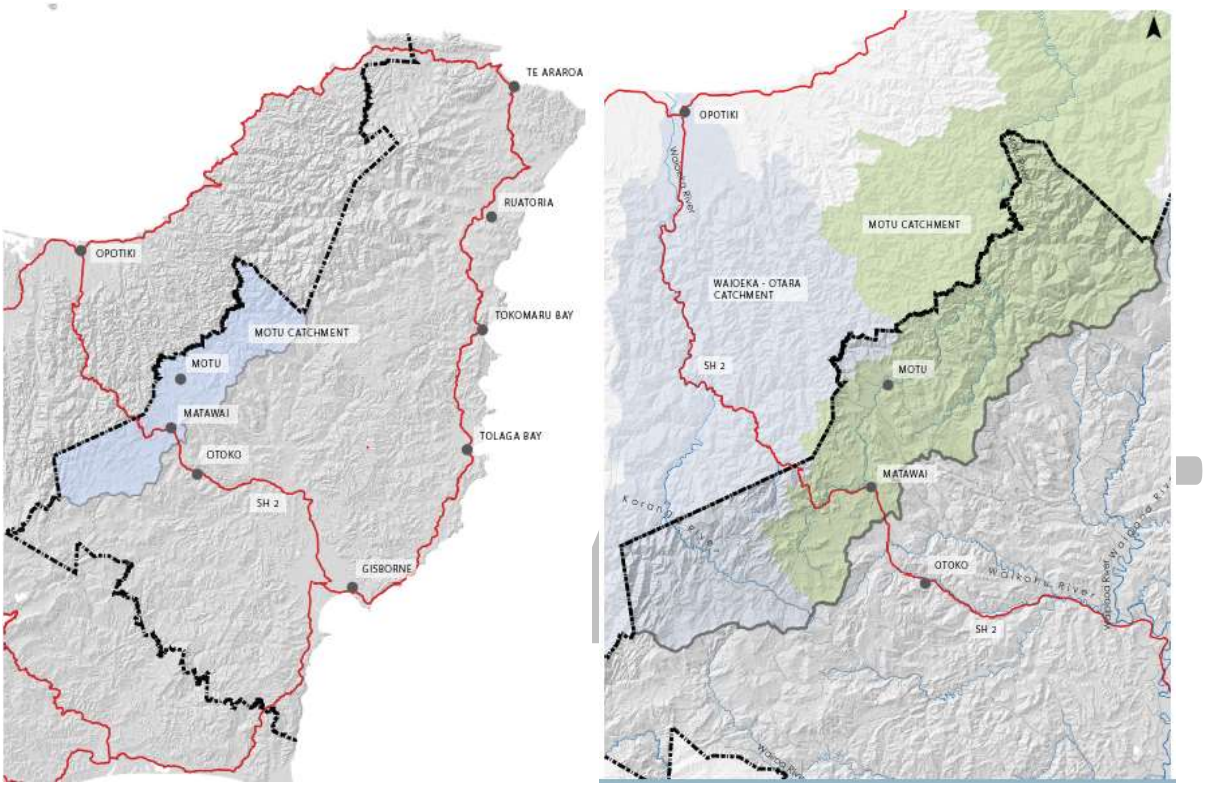
DRAFT Upper Mōtū Catchment Plan

1. Overview

1.1. Extent of catchment plan

The Upper Mōtū Catchment Plan covers the streams and rivers within the Tairāwhiti – Gisborne Region that constitue the upper reaches of two catchment areas that straddle the Tairāwhiti and Bay of Plenty regions:

- the Waioeka – Otara Catchment and
- the Motu Catchment.



The area within this catchment plan includes five upland stream and river catchment areas that have a combined area of 886km$^{2:}$

The waterbodies within this catchment area represent the only upland streams and rivers in the Tairāwhiti - Gisborne Region. In contrast to many waterways, human settlement and landuses (largely pastoral farming) occur in the upper reaches while the middle to lower reaches pass through largely unmodified native forest. This creates an issue where landuses in the upper catchment area can generate and export adverse effects downstream and across the regional boundary.

The catchments intersect the rohe of multiple iwi – Te Aitanga ā Māhaki, Te Whanau ā Apanui, Ngāi Tuhoe, Ngāti Ira and Whakatōhea.

A water conservation order is in place for the Mōtū River catchment area below the Mōtū Falls.

1.1.1 Cross Boundary Integration

The catchments are split across local government boundaries with the upper catchment being in the Tairāwhiti - Gisborne Region and the mid and lower catchment being in the Bay of Plenty Region. This means that there is a need for integration of management between the two Councils. At this stage Environment Bay of Plenty has not commenced its catchment planning for the Mōtū and Waioeka -Otara catchments.

However these areas predominantly lie within conservation lands and have significant ecological and cultural values. The Raukūmara Pae Maunga Restoration Project includes the mid and lower Mōtū Catchment and much of the Waioeka-Otara catchment.

Indications from Environment Bay of Plenty are that ecological and cultural values are likely to be prioritised when catchment planning is undertaken for these areas.

1.2. Description of Upper Mōtū Catchment

The Mōtū River lies to the west of the Raukumara Range and flows northwards to the Bay of Plenty. The total catchment area is 1373 km3, and total river length is 147km. Within Gisborne – Tairawhiti the Upper Mōtū catchment area is 700km.

The name Mōtū means 'cut off' or 'isolated'. This refers to the district around the headwaters, which, since ancient times, has been recognised as isolated because of the dense forests surrounding it. At the Mōtū Falls the river flows into Bay of Plenty Region where it travels through forested hill country to the coast east of Opotiki.

The Upper Mōtū is found at relatively high altitude and is categorised as an upland river. The Mōtū is one of the few remaining major rivers in the North Island whose catchment is relatively undisturbed. The river was investigated up to the early 1980's with a view to developing its hydroelectricity generating potential. However, it was decided, after much analysis and public debate, to set it aside from development, in recognition of its considerable scenic and wilderness value. A National Water Conservation Order for the Lower Motu was gazetted in 1984, under the 'wild and scenic river' provisions of the National Water and Soil Conservation Act (1981 amendment).

Geology, Soils and Land Use

The Upper Mōtū catchment is underlain by younger Cretaceous rocks, mainly moderately hard sandstones and softer mudstones, while the lower catchment is underlain by greywackes and argillites. Much of the area was covered with volcanic pumice ash in relatively recent times (around 200 A.D.).

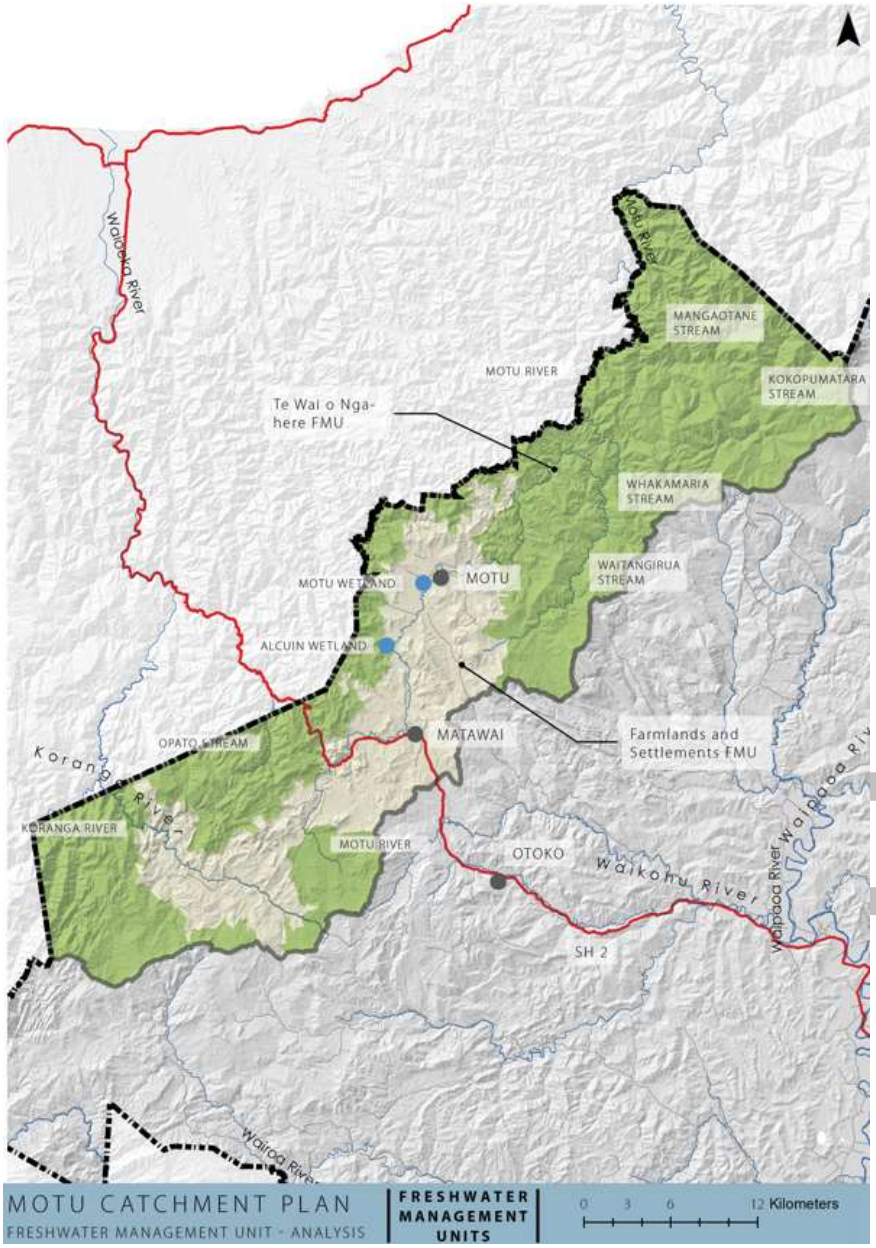
Soils in the Upper Mōtū catchment are variates of the Raukumara yellow brown pumice soils, derived from Taupo Pumice. These soils are well drained and have a high tephra content. On the steeper slopes, soils are shallow, stony and friable. In the Matawai Stream subcatchment the main soil type is the Matawai sandy loam over Taupo Pumice.

Land use capability (LUC) classes in the Motu catchment range from four to seven. Flatter land in the river valley is Class four, which means it is unsuitable for arable use but suitable for pasture. Steeper land falls into land Classes six and seven, and has moderate (Class six) to severe (Class seven) physical limitations on its potential use, including steep slopes, stony and shallow soils, very erodible rock types and severe soil erosion potential.

South of Mōtū township is a basin where the topography is relatively subdued. In this area, the land is used mainly for pastoral agriculture, with some cultivation and remnants of native forest on the steeper margins. In the Upper Motu catchment upstream of the Mōtū Fallls about 65% of the land is pastoral, 19% is indigenous forest and 12% is scrubland. Downstream of Mōtū Falls, the catchment is mainly forested.

1.3. Freshwater Management Units

There are two Freshwater Management Units which have been identified for the catchment plan – The Farmlands and Settlements Freshwater Management Unit and the Te Wai o Ngahere Freshwater Management Unit.


Waioeka River
Motu River
MANGAOTANE STREAM
MOTU RIVER
KOKOPUMATARA STREAM
Te Wai o Nga-here FMU
WHAKAMARIA STREAM
WAITANGIRUA STREAM
MOTU WETLAND
MOTU
ALCUIN WETLAND
MATAWAI
Farmlands and Settlements FMU
OPATO STREAM
Koranga River
KORANGA RIVER
MOTU RIVER
OTOKO
Waikohu River
Waipaoa River
SH 2
Waiora River
MOTU CATCHMENT PLAN
FRESHWATER MANAGEMENT UNIT - ANALYSIS
FRESHWATER MANAGEMENT UNITS
0 3 6 12 Kilometers

2. Long-term vision for the Mōtū Catchment

The mauri of freshwater is protected and enhanced for the full extents of the Upper Mōtū and the Upper Waioeka – Otara Catchments.

The Mōtū River and its tributaries continue to be recognized locally and internationally as a significant destination for back country trout fishing. The waterways are safe for swimming, fishing and the harvesting of mahinga kai.

The outstanding natural and scenic values of Te Wai o Ngahere FMU are maintained and protected from degradation. The FMU remains a bastion of high ecosystem health and ensures the catchment continues to be an important place for education, recreation and biodiversity.

The productive landscape of the Farmlands and Settlements FMU continues to provide for the productive and economic wellbeing of the Mōtū community. Sediment and E.coli no longer make their way into the waterways.

Sediment inputs are reduced across the Upper Mōtū and Upper Koranga rivers and riverbank erosion is substantially reducted. Suspended and deposited sediment levels in the rivers have reduced to levels above national bottom linesand there is a corresponding improvement in fish and freshwater insect health and abundance within the catchment area.

The natural form and character of the Mōtū River is improved – targeted recovery work along the riparian margin naturalises the channel morphology, reduces streambank erosion and supports freshwater biodiversity.

3. Objectives

3.1. The health and well-being of water bodies and freshwater ecosystems

Objective 1 To improve the water quality of the freshwaters in the catchment so that they support a diverse and abundant range of native biota.

Objective 2 To maintain the diversity of rare, threatened and unique riverine species in the catchment and undertake habitat improvements that enable threatened species to expand their range.

Objective 3 To ensure that wai tapu are free from human and animal waste, pollutants and excess sediment and that taonga are protected.

3.2. The health needs of people

Objective 4 To ensure that tributary streams and puna/springs within the catchment continue to provide for domestic use with healthy safe drinking water.

Objective 5 To improve the water quality in the catchment so that the local community are able to safely swim during the bathing season in the Farmlands and Settlements FMU and year round in the Te Wai o Ngahere FMU.

Objective 6 To ensure that mahinga kai is plentiful and safe to harvest and eat and is able to provide food for the people of the rohe.

Objective 7 To maintain the existing natural character of the freshwaters in the catchment; and

1. Restore the riparian environment in modified areas through planting and use of soft engineering methods as a preferred method for erosion protection; and
2. Minimise any further straightening or relocation of the rivers and streams; and
3. Avoiding the damming of the main rivers.

3.3. The ability of people and communities to provide for their social, economic, and cultural well-being

Objective 8 To maintain the nationally significant trout fishery values within the Mōtū and Koranga Rivers, including:

1. Maintaining successful spawning in tributary streams; and
2. Maintaining angler access to the river to fish at a range of locations.

Objective 9 To maintain the wild and scenic values that attract people to the Mōtū and Koranga Rivers and continue to provide for a range of recreation values that derive from these wild and scenic qualities.

Objective 10 To retain the use of streams of rivers in the catchment as the source of drinking water for livestock but undertake this in such a way that other values of the waterbodies are not compromised.

Objective 11 To ensure that the Mōtū River remains navigable for waka and they are able to launch, land and trails cross at traditional sites.

Objective 12 To ensure that farming is able to continue in the catchment as a major landuse and to support the livelihood of the local community.

Objective 13 To enable the Mōtū River water to be used to support existing commercial and industrial uses, irrigation and cultivation of permanent and annual crops where there is water available and where it's use does not compromise other values of the river.

4. FMU1- Farmlands and Settlements Freshwater Management Unit

The Farmlands and Settlements Freshwater Management Unit encompasses the main areas of farming and productive uses within the catchment plan area. It includes the upper part of the farmed area of the Koranga catchment headwaters.

4.1. Monitoring Sites within the Farmlands and Settlements Freshwater Management Unit

Within this FMU the following sites will be used for monitoring

Monitoring site	Location	Role
Gisborne District Council Mōtū at Kotare Station	Mōtū River mid upper reaches at Kotare Station Bridge	Representative of part of FMU . Monitored monthly for water quality NOF attributes, annually for aquatic ecosystem health and continuously for water quantity attributes.
Gisborne District Council Mātāwai Stream	Matawai Stream	Representative of part of FMU (more intensively farmed tributaries). Monitored monthly for NOF water quality attributes and annually for aquatic ecosystem health attributes.
Gisborne District Council Mōtū Above Mōtū Falls	Mōtū River	Representative of part of FMU. Monitored monthly for NOF water quality attributes and annually for aquatic ecosystem health attributes. Representative primary contact site – monitored for E.coli and Phormidium in the swimming season.
Gisborne District Council Koranga River at Koranga Road	Koranga River	Representative of FMU – Monitored annually for aquatic ecosystem health
Gisborne District Council monitoring site Koranga tributary at Rakauroa Road	tributary of the Koranga River	Representative of FMU – Monitored annually for aquatic ecosystem health

4.2. Prominent Values in the Farmlands and Settlements Freshwater Management Unit

Type of Value	How important is this FMU?	Freshwater Attributes linked to this value
Ecosystem Health	High	Periphyton, Ammonia, Nitrate, Suspended Fine Sediment, Fish, Macroinvertebrates, Deposited Fine Sediment, Phosphate, Ecosystem Metabolism, Dissolved Oxygen, Flow
Mahinga Kai	High	Ammonia, Nitrate, Phosphate, Dissolved oxygen, Suspended Fine Sediment, Deposited Fine Sediment, E. coli, Periphyton, Fish, Macroinvertebrates, Ecosystem Metabolism, Dissolved Oxygen, Flow
Trout Fishing	High	Ammonia, Nitrate, Phosphate, Dissolved oxygen, Suspended Fine Sediment, Deposited Fine Sediment, Periphyton, Fish, Macroinvertebrates, Ecosystem Metabolism, Dissolved Oxygen, Flow
Farming and Production	High	Flow
Human Contact	Moderate to high	E. coli, Suspended Fine Sediment, periphyton, Flow
Threatened Species	Moderate	Ammonia, Suspended Fine Sediment, Fish, Macroinvertebrates, Ecosystem Metabolism, Dissolved Oxygen, Flow
Natural Form and Character	Moderate	Suspended Fine Sediment, Deposited Fine Sediment, Periphyton, Flow
Animal Drinking Water	Moderate	Nitrate, E. coli, Flow
Drinking Water Supply	Low	Suspended Fine Sediment, Nitrate, E. coli, Flow
Irrigation, cultivation	Low	Suspended Fine Sediment, E. coli, Flow
Commercial and Industrial Use	Low	Suspended Fine Sediment, Flow
Transport and Tauranga Waka	Low	Flow

4.3. Environmental Outcomes for the Farmlands and Settlements Freshwater Management Unit

Freshwater value	Outcome statement	
Ecosystem health	**EO-1**	The water quality and river, stream and wetland flows support a diverse and abundant range of native biota including invertebrates, plants, fish and birds.
Threatened species	**EO-2**	Tuna continues to thrive in the rivers. Where possible habitat improvements enable other threatened species to expand their range into the FMU.
Natural Form and Character	**EO-3**	The existing natural character of the rivers and streams is retained. Further straightening or relocation of the rivers and streams is minimised and damming of the main rivers is avoided. Existing crossings and access structures are protected from erosion, soft engineering methods for erosion protection is preferred where possible. The riparian environment is improved through planting to reduce the impact of bank erosion on this value.
Mahinga kai	**EO-4**	The rivers and streams offer rich habitat for mahinga kai species which thrive within and around water. Kai and other resources are plentiful and safe to harvest and eat and is able to provide food for the people of the rohe.
Drinking Water Supply	**EO-5**	Tributary streams and springs arising from the ngahere within the catchment continue to provide for domestic use with healthy safe drinking water.
Human contact	**EO-6**	The local community continue to be able to enjoy the waterholes and swimming spots. Bacterial contamination is reduced so that the river meets standards for recreational use.
Trout Fishing	**EO-7**	The Mōtū River and its tributaries retains it's nationally significant trout fishery status. Successful spawning occurs in tributary streams keeping the fishery abundant. Fishers are able to access the river to fish at a range of locations. Fishing the river remains a premier experience for locals and visitors alike.
Transport and Tauranga waka	**EO-8**	The traditional crossing sites over the Mōtū River and trails within the catchment are recognised and their cultural values protected.
Animal drinking water	**EO-9**	The Mōtū River supports the health and wellbeing and provide for healthy drinking water needs for livestock. This is done in such a way that other values of the river are not compromised.
Farming and Production	**EO-10**	Farming continues in the catchment as a major landuse – supporting the livelihood of the local community.
Irrigation and cultivation	**EO-11**	Mōtū River water is able to be used to support irrigation and the cultivation of permanent and annual crops where there is water available and where its use does not compromise other values of the river
Commercial and Industrial	**EO-12**	Existing commercial and industrial uses are able to continue where they do not compromise other values of the river.

4.4. Farmlands and Settlements Freshwater Management Unit Attributes – Baseline States and Target States

Attribute	Farmlands and Settlements Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	**Baseline Attribute Band**	**Baseline Numeric Attribute State**	**Target Attribute band**	**Target Numeric Attribute State**	**Description**	**Timeframe to Achieve Target State**	**Interim Target Attribute State (By 2031)**	
Compulsary Attributes									
Periphyton (trophic state) in rivers (mg chl-*a*/m²)	Kotare Station Bridge Mōtū Above Falls Mātāwai Stream	Likely B Band	Likely >50 and <120	B Band	>50 and <120	Occasional blooms reflecting low nutrient enrichment and/or alteration of the natural flow regime or habitat	Maintain Current State		Ecosystem health Human Contact
	Koranga River at Koranga Road Koranga tributary at Rakauroa Road	Likely A Band	Likely <50	A Band	<50	Rare blooms reflecting negligable nutrient enrichment and/or alteration of the natural flow regime or habitat	Maintain Current State		
Ammonia (toxicity) (mg/L)	Kotare Station Bridge Mōtū Above Falls	A Band	Annual median <0.03 Annual maximum <0.05	A Band	Annual median <0.03 Annual maximum <0.05	99% species protection level. No observed effect on any species tested.	Maintain Current State		Ecosystem health Trout fishing Mahinga kai
	Mātāwai Stream	B Band	Annual median <0.24	A Band	Annual median <0.03	99% species protection level. No	2031	A Band	

Attribute	Farmlands and Settlements Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	**Baseline Attribute Band**	**Baseline Numeric Attribute State**	**Target Attribute band**	**Target Numeric Attribute State**	**Description**	**Timeframe to Achieve Target State**	**Interim Target Attribute State (By 2031)**	
			Annual maximum <0.40		Annual maximum <0.05	observed effect on any species tested.			
Nitrate (toxicity) (mg/L)	Kotare Station Bridge Mōtū Above Falls Mātāwai Stream	A Band	Annual median <1.0 Annual 95th Percentile <1.5	A Band	Annual median <1.0 Annual 95th Percentile <1.5	High conservation value system. Unlikely to be effects even on sensitive species	2031	A Band	Ecosystem health Trout fishing Mahinga kai
Suspended fine sediment (visual clarity in metres). **Suspended Sediment Class 1**	Kotare Station Bridge Mōtū Above Falls Mātāwai Stream	D Band	Annual median <1.34	D Band	0.85m	Reduce human-induced contribution of suspended sediment so that values are similar to the Reference Site	2041	0.8m	Ecosystem health Trout fishing Mahinga kai Human contact Natural form and character Drinking water Wai tapu
Escherichia coli (E.coli) ***(cfu/100mL)***	Kotare Station Bridge	E Band	Median concentration >260	C Band	Median 130	For at least half of the time the estimated	2041	D Band	Human contact Mahinga kai

Attribute	Farmlands and Settlements Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	**Baseline Attribute Band**	**Baseline Numeric Attribute State**	**Target Attribute band**	**Target Numeric Attribute State**	**Description**	**Timeframe to Achieve Target State**	**Interim Target Attribute State (By 2031)**	
	Mōtū Above Falls Mātāwai Stream		95th Percentile >1200		95th Percentile 1200 10-20% exceedances over 540/100mL 20-34% exceedances over 260/100mL	risk is <1 in 1000 (0.1% risk) The predicted average infection risk is 3%			Animal drinking water Recreation Drinking water supply
Attributes Requiring Action Plans									
Fish **(Fish index of Biotic Integrity)**	Kotare Station Bridge Mōtū Above Falls Mātāwai Stream Koranga River at Koranga Valley Road Koranga tributary at	Likely D Band		C Band	<28 and >18	Reintroduction of native species no longer present in the ecosystem. Improvement in habitat. Mōtū Falls remains a significant barrier for migration of all but eel species.	2031	N/A	Ecosystem health Threatened species Mahinga kai

Attribute	Farmlands and Settlements Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	**Baseline Attribute Band**	**Baseline Numeric Attribute State**	**Target Attribute band**	**Target Numeric Attribute State**	**Description**	**Timeframe to Achieve Target State**	**Interim Target Attribute State (By 2031)**	
	Rakauroa Road								
Macro-invertebrates (QMCI and MCI)	Kotare Station Bridge Koranga River at Koranga Road Koranga Trib at Rakauroa Road	B Band	QMCI >5.5 and<6.5 MCI >110 and <130	B Band	QMCI >5.5 and<6.5 MCI >110 and <130	Macroinvertebrate community indicative of mild organic pollution or nutrient enrichment. Largely composed of taxa sensitive to organic pollution/nutrient enrichment.	Maintain Current State		Ecosystem health Trout fishing Mahinga kai
	Mōtū above Falls	C Band	QMCI >4.5 and<5.5 MCI >90 and <110				2036	QMCI 5.5 MCI 105	
	Mātāwai stream	D Band	QMCI <4.5 MCI >90 and <110				2036	QMCI 5.5 MCI Maintained above 110	
Macroinvertebrates (ASPM)	Koranga River at Koranga Road Koranga Tributary at	A Band	>0.6	A Band	>0.6	Macroinvertebrate communities have a high ecological integrity, similar to	Maintain Current State		Ecosystem health Trout fishing Mahinga kai

Attribute	Farmlands and Settlements Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	**Baseline Attribute Band**	**Baseline Numeric Attribute State**	**Target Attribute band**	**Target Numeric Attribute State**	**Description**	**Timeframe to Achieve Target State**	**Interim Target Attribute State (By 2031)**	
	Rakauroa Road					that expected in reference conditions.			
	Kotare Station Bridge Mātāwai Stream	B Band	<0.6 and >0.4	B Band	<0.6 and >0.4	Macroinvertebrate communities have mild-to-moderate loss of ecological integrity	Maintain Current State		
	Mōtū Above Falls	C Band	<0.4 and >0.3				2036	ASPM 0.35	
Deposited Fine Sediment (percentage cover)	Mōtū Above Falls	A Band	<9	A Band	<9	Minimal impact of deposited fine sediment on instream biota. Ecological communities are similar to those observed in reference conditions	Maintain Current State		Ecosystem health Trout fishing Mahinga kai Threatened species Natural form and character Wai tapu
	Kotare Station Bridge	D Band	>27	C Band	>19 and <29	Moderate to high impact of deposited fine sediment on instream biota. Sensitive	2036	29	

Attribute	Farmlands and Settlements Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	**Baseline Attribute Band**	**Baseline Numeric Attribute State**	**Target Attribute band**	**Target Numeric Attribute State**	**Description**	**Timeframe to Achieve Target State**	**Interim Target Attribute State (By 2031)**	
						macroinvertebrate species may be lost			
Dissolved Reactive Phosphorus	Kotare Station Bridge	D Band	Median >0.018 95th Percentile >0.030 and <0.054	C Band	Median >0.010 and <0.018 95th Percentile >0.030 and <0.054	Ecological communities impacted by moderate DRP elevation. In combination with other conditions favouring eutrophication, DRP enrichment may cause increased algal and plant growth, loss of sensitive macro-invertebrate and fish taxa and high rates of respiration and decay.	2036	0.018	Ecosystem health Trout fishing Mahinga kai
	Mōtū Above Falls Mātāwai Stream	C Band	Median >0.010 and <0.018 95th Percentile >0.030 and <0.054				Reverse Degrading Trend	Mātāwai Stream improving trend	
***Escherichia coli (E.coli/100 mL)* (Primary contact sites during the bathing season)**	Mōtū Above Falls	Poor	95th Percentile >540	Fair	95th Percentile>260 and <540	Estimated risk of *Campylobacter* infection has 1-5% occurrence, 95% of the time	2041	1200	Human contact Recreation

Attribute	Farmlands and Settlements Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	**Baseline Attribute Band**	**Baseline Numeric Attribute State**	**Target Attribute band**	**Target Numeric Attribute State**	**Description**	**Timeframe to Achieve Target State**	**Interim Target Attribute State (By 2031)**	
Ecosystem Metabolism (g O_2/m^2/day)	Kotare Station Bridge Mōtū Above Falls	TBC	TBC	TBC	> -4.00 and < -5.00		Maintain current state		Ecosystem health Trout fishing Mahinga kai
	Mātāwai Stream	TBC	TBC	TBC	>-9.00 and <-10.00		**TBC**		
Dissolved oxygen (mg/L)	Kotare Station Mōtū Above Falls	B Band	7-day mean minimum >7.0 and <8.0 1-day mean minimum >5 and <7.5	B Band	7-day mean minimum >7.0 and <8.0 1-day mean minimum >5 and <7.5	Occasional minor stress on sensitive organisms caused by short periods (a few hours each day) of lower dissolved oxygen. Risk of reduced abundance of sensitive fish and macroinvertebrates.	Maintain current state		Ecosystem health Trout fishing Mahinga kai
	Mātāwai Stream	C Band	7-day mean minimum >5.0 and <7.0 1-day mean minimum				2036	7 -day mean minimum >6 1-day minimum >5.5	

Attribute	Farmlands and Settlements Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	Baseline Attribute Band	Baseline Numeric Attribute State	Target Attribute band	Target Numeric Attribute State	Description	Timeframe to Achieve Target State	Interim Target Attribute State (By 2031)	
			>5 and <7.5						

4.5. Farmlands and Settlements FMU Limits on Resource Use to Achieve Target Attribute States and Environmental Outcomes

Attribute	Instream Limit	Exceedance Criteria	Comment on Current State
Total Nitrogen	TN 0.488 mg/L	20%	Current 5 year median is 0.095 at Mātāwai Conservation Area, 0.36 at Kotare Station, 0.48 at Mōtū Above Falls and 0.83 in the Mātāwai Stream
Dissolved Reactive Phosphorus	DRP 0.0152 mg/L	20%	Current 5 year median is greater than this – 0.019 mg/L in the Mōtū at Kotare station – and 0.016 at Mōtū above Falls – but it is less than this at the Mātāwai Conservation Area and in the Mātāwai Stream

5. Te Wai o Ngahere Freshwater Management Unit

Te Wai o Ngahere Freshwater Management Unit (FMU) encompasses the natural bush covered and largely unmodified areas within the catchment plan area. It includes the headwaters of the Mōtū River in the Mātāwai Conservation Area as well as the Waitangirua Catchment and the Mōtū River and tributary catchments below the Falls. The Opato and Pakihi catchment headwaters and the Kahunui Stream and tributaries in the Koranga catchment headwaters.

5.1. Monitoring Sites within the Te Wai o Ngahere Freshwater Management Unit

Within this FMU the following sites will be used for monitoring:

Monitoring site	Location	Role
Gisborne District Council Mātāwai Conservation Area	Mōtū River headwaters	Representative of FMU. Monitored monthly for NOF water quality attributes and annually for aquatic ecosystem health attributes.
Gisborne District Council Upper Mōtū Tributary at Mōtū Road	Tributary of Mōtū River	Representative of FMU. Monitored annually for aquatic ecosystem health attributes.
Gisborne District Council Whakarau Tributary at Whakarau Road monitoring site	Tributary of Mōtū River	Representative of FMU. Monitored annually for aquatic ecosystem health attributes.
Gisborne District Council Marumoko Stream at Marumoko Road monitoring site	Tributary of Mōtū River	Representative of FMU. Monitored annually for aquatic ecosystem health attributes.

5.2. Prominant Values in the Te Wai o Ngahere Freshwater Management Unit

Type of Value	How important is this FMU?	Freshwater Attributes Linked to this value
Ecosystem Health	High	Periphyton, Ammonia, Nitrate, Suspended Fine Sediment, Fish, Macroinvertebrates, Deposited Fine Sediment, Phosphate, Ecosystem Metabolism, Dissolved Oxygen, Flow
Threatened Species	High	Ammonia, Suspended Fine Sediment, Fish, Macroinvertebrates, Ecosystem Metabolism, Dissolved Oxygen, Flow
Natural Form and Character	High	Suspended Fine Sediment, Deposited Fine Sediment, Periphyton, Flow
Wai tapu	High	Periphyton, Ammonia, Nitrate, Suspended Fine Sediment, Fish, Macroinvertebrates, Deposited Fine Sediment, Phosphate, Ecosystem Metabolism, Dissolved Oxygen, Flow
Mahinga Kai	High	Periphyton, Ammonia, Nitrate, Suspended Fine Sediment, Fish, Macroinvertebrates, Deposited Fine Sediment, Phosphate, Ecosystem Metabolism, Dissolved Oxygen, Flow

Type of Value	How important is this FMU?	Freshwater Attributes Linked to this value
Trout Fishing	High	Ammonia, Nitrate, Phosphate, Dissolved oxygen, Suspended Fine Sediment, Deposited Fine Sediment, Periphyton, Fish, Macroinvertebrates, Ecosystem Metabolism, Dissolved Oxygen, Flow
Recreation	High	E.coli, Flow
Human Contact	Low - Moderate	E. coli, Suspended Fine Sediment, periphyton, Flow
Drinking Water Supply	Low	Suspended Fine Sediment, Nitrate, E. coli, Flow
Transport and Tauranga Waka	Low	Flow
Animal Drinking Water	Low	Suspended Fine Sediment, Deposited Fine Sediment, Periphyton, Flow
Farming and Production	Low	Flow

5.3. Environmental Outcomes for the Te Wai o Ngahere Freshwater Management Unit

Freshwater value	Outcome statement	
Ecosystem health	**EO-1**	The good water quality and healthy flows in the rivers, streams and wetlands continue to support a diverse and abundant range of native biota including invertebrates, plants, fish and birds.
Threatened species	**EO-2**	Many rare and unique riverine plants and animals thrive in the area including whio, hochstetter's frog and tuna as well as a wide range of insects and freshwater invertebrates in healthy habitats. Rare and threatened native fish can be found that are able to live their full life cycle unimpeded by human made barriers or absence of habitat.
Natural Form and Character	**EO-3**	The rivers and streams retain a high degree of natural character with clear water, natural flows and courses. They exist within a native forest environment with natural wetlands.
Wai Tapu	**EO-4**	Wai tapu are free from human and animal waste, pollutants and excess sediment. Identified taonga in the wai are protected.
Mahinga kai	**EO-5**	The rivers and streams offer rich habitat for mahinga kai species which thrive within and around water. Kai and other resources are plentiful and safe to harvest and eat and is able to provide food for the people of the rohe.
Drinking Water Supply	**EO-6**	Tributary streams and springs within the catchment continue to provide for domestic use with healthy safe drinking water.
Human contact	**EO-7**	Visitors and locals continue to be able to enjoy swimming in waterways with clear water and low sediment. Low bacterial contamination and an absence of Phormidium cyanobacteria blooms means it is safe to swim year round.

Trout Fishing	**EO-8**	The nationally significant trout fishery values are maintained with excellent spawning habitat in small streams and great fishing in the main Mōtū and Koranga Rivers.
Recreation	**EO-9**	The wild and scenic values that attract people to the Mōtū and Koranga Rivers continue to provide for a range of recreation including kayaking, white water rafting and tramping.
Transport and Tauranga waka	**EO-10**	The Mōtū River remains navigable for waka and they are able to launch, land and trails cross at traditional sites.
Animal drinking water	**EO-11**	Streams and rivers in the catchment continue to provide drinking water to support the health and wellbeing of livestock. This is done in such a way that other values of the waterbodies are not compromised.

5.4. Te Wai o Ngahere Freshwater Management Unit Attributes – Baseline States and Target States

Attribute	Te Wai o Ngahere Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	**Baseline Attribute Band**	**Baseline Numeric Attribute State**	**Target Attribute band**	**Target Numeric Attribute State**	**Description**	**Timeframe to Achieve Target State**	**Interim Target Attribute State (By 2031)**	
Compulsary Attributes									
Periphyton (trophic state) in rivers **(mg chl-*a*/m²)**	Mātāwai Conservation Area Upper Mōtū Tributary at Mangatu Whakarau Tributary at Whakarau Road Marumoko Stream at Marumoko Road	Likely A Band	Likely <50	A Band	<50	Rare blooms reflecting negligable nutrient enrichment and/or alteration of the natural flow regime or habitat	Maintain current state		Ecosystem health Human Contact
Ammonia (toxicity) **(mg/L)**	Mātāwai Conservation Area	A Band	Annual median <0.03 Annual maximum <0.05	A Band	Annual median <0.03 Annual maximum <0.05	99% species protection level. No observed effect on any species tested.	Maintain current state		Ecosystem health Trout fishing Mahinga kai

Attribute	Te Wai o Ngahere Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	Baseline Attribute Band	Baseline Numeric Attribute State	Target Attribute band	Target Numeric Attribute State	Description	Timeframe to Achieve Target State	Interim Target Attribute State (By 2031)	
Nitrate (toxicity)	Mātāwai Conservation Area	A Band	Annual median <1.0 Annual 95th Percentile <1.5	A Band	Annual median <1.0 Annual 95th Percentile <1.5	High conservation value system. Unlikely to be effects even on sensitive species	Maintain current state		Ecosystem health Trout fishing Mahinga kai
Suspended fine sediment	Mātāwai Conservation Area	D Band	Annual median <1.34	D Band	Annual Median >1.0	High impact of suspended sediment on instream biota. Sensitive fish species may be lost. This is thought to be a largely natural circumstance. Pest disturbance may be a factor however.	2041		Annual Median >0.9
Escherichia coli (E.coli)	Mātāwai Conservation Area	B Band	Median concentration <130 95th Percentile <1000	B Band	Median concentration <130 95th Percentile <1000	For at least half the time, the estimated risk is <1 in 1000 (0,1% risk). The predicted average infection risk is 2%.	Maintain current state		Human contact Mahinga kai Animal drinking water Recreation

Attribute	Te Wai o Ngahere Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	Baseline Attribute Band	Baseline Numeric Attribute State	Target Attribute band	Target Numeric Attribute State	Description	Timeframe to Achieve Target State	Interim Target Attribute State (By 2031)	
									Drinking water supply
Attributes Requiring Action Plans									
Fish **(Fish index of Biotic Integrity)**	Mātāwai Conservation Area	D Band		C Band		Reintroduction of native species no longer present in the ecosystem. Improvement in habitat. Mōtū Falls remains a significant barrier for migration of all but eel species	2031	N/A	Ecosystem health Trout fishing Mahinga kai
Macroinvertebrates (QMCI and MCI)	Mātāwai Conservation Area	A/B Band	QMCI >6.5 MCI >110 and <130	A/B Band	QMCI >6.5 MCI >110 and <130	Macroinvertebrate community indicative of pristine conditions with almost no organic pollution or nutrient enrichment. This site represents one of the highest MCI scores in the Tairāwhiti - Gisborne Region and is considered a Reference Site.	Maintain current state		Ecosystem health Trout fishing Mahinga kai

Attribute	Te Wai o Ngahere Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	**Baseline Attribute Band**	**Baseline Numeric Attribute State**	**Target Attribute band**	**Target Numeric Attribute State**	**Description**	**Timeframe to Achieve Target State**	**Interim Target Attribute State (By 2031)**	
	Upper Mōtū Trib at Mangatu Whakarau Trib at Whakarau Road Marumoko Stream and Marumoko Road	B Band	QMCI >5.5 and <6.5	B Band	QMCI >5.5 and <6.5	Macroinvertebrate community indicative of mild organic pollution or nutrient enrichment. Largely composed of taxa sensitive to organic pollution/nutrient enrichment.	Maintain current state		
Macro-invertebrates (ASPM)	Mātāwai Conservation Area Upper Mōtū Trib at Mangatu Marumoko Stream at Marumoko Road	A Band	>0.6	A Band	>0.6	Macroinvertebrate communities have high ecological integrity, similar to reference conditions.	Maintain current state		Ecosystem health Trout fishing Mahinga kai
	Whakarau Trib at Whakarau Road	B Band	<0.6 and >0.4	B Band	<0.6 and >0.4	Macroinvertebrate communities have mild – to -moderate loss of ecological integrity	Maintain current state		

Attribute	Te Wai o Ngahere Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	Baseline Attribute Band	Baseline Numeric Attribute State	Target Attribute band	Target Numeric Attribute State	Description	Timeframe to Achieve Target State	Interim Target Attribute State (By 2031)	
Deposited Fine Sediment	Mātāwai Conservation Area	C Band	> 19 and <27	C Band	> 19 and <27	Moderate to high impact of deposited fine sediment on instream biota.	Maintain current state		Ecosystem health Trout fishing Mahinga kai Threatened species Natural form and character Wai tapu
	Upper Mōtū Trib at Mangatu	D Band	>27				2031	N/A	
	Whakarau Trib at Whakarau Road	B Band	>12 and <19	B Band	>12 and <19	Low to moderate impact of deposited fine sediment on instream biota. Abundance oif sensitive macroinvertebrate species may be reduced.	Maintain current state		
	Marumoko Stream at Marumoko Road	A Band	<13	A Band	<13	Minimal impact of deposited fine sediment on instream biota. Ecological communities are similar to those observed in reference conditions	Maintain Current State		

Attribute	Te Wai o Ngahere Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	Baseline Attribute Band	Baseline Numeric Attribute State	Target Attribute band	Target Numeric Attribute State	Description	Timeframe to Achieve Target State	Interim Target Attribute State (By 2031)	
Dissolved Reactive Phosphorus	Mātāwai Conservation Area	C Band	Median >0.010 and <0.018 95th Percentile <0.021	C Band	Median >0.010 and <0.018 95th Percentile <0.021	Ecological communities impacted by moderate DRP elevation. In combination with other conditions favouring eutrophication, DRP enrichment may cause increased algal and plant growth, loss of sensitive macro-invertebrate and fish taxa and high rates of respiration and decay. This site is considered a reference site for the catchment and the levels of DRP therefore are considered to largely represent the natural condition.	Maintain current state		Ecosystem health Trout fishing Mahinga kai

Attribute	Te Wai o Ngahere Freshwater Management Unit Baseline States and Target States								Values supported by this attribute
	Monitoring Sites	Baseline Attribute Band	Baseline Numeric Attribute State	Target Attribute band	Target Numeric Attribute State	Description	Timeframe to Achieve Target State	Interim Target Attribute State (By 2031)	
Ecosystem Metabolism	Mātāwai Conservation Area	TBC	TBC	TBC	TBC	TBC	TBC		Ecosystem health Trout fishing Mahinga kai
Dissolved oxygen	Mātāwai Conservation Area	B Band	7-day mean minimum >7.0 and <8.0 1-day minimum >5.0 and <7.5	B Band	7-day mean minimum >7.0 and <8.0 1-day minimum >5.0 and <7.5	Occasional minor stress on sensitve organisms caused by short periods (a few hours each day) of lower dissolved oxygen. Risk of reduced abundance of sensitive fish and macroinvertebrate species.	Maintain Current State		Ecosystem health Trout fishing Mahinga kai

6. Mōtū Catchment Plan Specific Policies and Rules

6.1. Water Quantity and Allocation

Mōtū Catchment Plan Specific Policies

Policy – Mōtū – P1 When assessing resource consent applications for water takes in the Mōtū Catchment Plan area the following matters shall be considered:

1. The impacts of any water take on identified cultural values of mana whenua including mahinga kai and the habitats of culturally significant species such as tuna;
2. The impacts of any water take on the flow requirements of mature brown trout and large long-fin eel/tuna and ensuring that there is sufficient flow for these species to thrive optimally within the waterbody;
3. The impacts of any water take on the rate and success of spawning of trout in spawning streams; and
4. The effect any water take may have on water quality, including the volume of water needed in the waterbody to effectively dilute existing contaminants where the waterbody is a degraded waterbody in the Mōtū Catchment Plan – Farmlands and Settlements FMU;
5. The positive effects that stockwater reticulation can give in terms of reduced stock access to waterways.

Advice Note: This policy replaces Policy C6.1.1 (15) of the Tairāwhiti Resource Management Plan.

Mōtū Catchment Plan Specific Rules

Rule MŌTŪ – R1 The take and use of surface or groundwater in the Farmlands and Settlements FMU not provided for as a Permitted Activity in the Tairāwhiti Resource Management Plan is a Restricted Discretionary Activity.

Where

1. This is not the taking and use of freshwater for the purposes of irrigation of land on a Dairy Farm; and
2. Minimum flow requirements and allocation limits as set out in section 3.3.3 of the Mōtū Catchment Plan are complied with; and
3. The maximum rate of take is 10 litres/second; and
4. The water take is not from a wetland.

Discretion is restricted to:

a. Effects of water abstraction on trout and long-fin eel/tuna populations, including spawning areas;
b. Effects of water abstraction on water quality including dilution effects;
c. Effects on cultural values of mana whenua;
d. Methods of fish screening;
e. Location of the water take;
f. Ensuring that no one water take/water user is allocated the entire allocation of water available from any one water source;
g. The rate, volume and timing of the take including daily, weekly, monthly and annual limits;
h. In-stream flow requirements where restrictions are required;

i. In-stream flow requirements where abstraction shall cease;

j. The effects of the take and use on the quantity and quality of all water resources, including wetlands, that may be affected by the proposed activity;

k. The effects the take or use has on any other authorised takes and use; and

l. Water storage requirements.

Advice Notes:

1. This rule replaces Rule 6.1.2 (5,6 and 7) of the general regional water take provisions of the Tairāwhiti Resource Management Plan.
2. In relation to Irrigation of Dairy Farm Land this rule replaces Clause 20 of the Agricultural Intensification Temporary Standards in the NES – Freshwater 2020.

Rule MŌTŪ – R2 The taking and use of surface or groundwater in the Mōtū Catchment Plan area not provided for as a Permitted or Restricted Discretionary Activity is a Non-complying Activity.

Advice note:

1. This rule replaces Rule 6.1.2 (9 and 10) of the general regional water take provisions of the Tairāwhiti Resource Management Plan.
2. In relation to Irrigation of Dairy Farm Land this rule replaces Clause 21 of the Agricultural Intensification Temporary Standards in the NES – Freshwater 2020.
3. For the avoidance of doubt, taking and use of water other than for Permitted Activities is a Non-complying Activity in the Te Wai o Ngahere FMU.

6.2. Water Quality and Discharges

Mōtū Catchment Plan Specific Policies

Policy – Mōtū – P2 Recognise that land conversion and intensification can have a significant impact on water quality. Within the Mōtū Catchment Plan area, land conversions that could lead to increased nutrients, E.coli or sediment reaching waterbodies should be avoided.

Policy – Mōtū – P3 Avoid new intensive farming activities which could further degrade water quality. This includes:

- Feedlots, stockholding facilities, dairy farms, irrigation of crops or pasture for animals, except where an activity can demonstrate that no increase in levels of nutrients or bacteria beyond 2020 levels will occur in any river or groundwater as a result of the activity;
- Dairy support and winter intensive grazing except where this is established with substantial riparian buffers from all waterbodies and in compliance with a Certified Farm Environment Plan;
- Applications of fertlizer so that rates and quantities applied support the required improvements for in stream dissolved reaction phosphorus and total nitrogen.

Policy – Mōtū -P4 Recognise the limits and targets in the Mōtū Catchment – Farmlands and Settlements FMU identify that water quality in the Mōtū River and Matawai Stream is degraded in relation to multiple water quality attributes including:

- E.coli;
- Suspended Fine Sediment;
- Fish;

- Macroinvertebrates;
- Deposited Fine Sediment; and
- Dissolved Reactive Phosphorus.

Advice Note: Policies C6.2.2. (6) and C6.2.2 (7) in the TRMP are specifically relevant to any resource consents for discharges within the Mōtū Catchment – Farmlands and Settlements FMU as the Mōtū River and Matawai Stream have both been identified as degraded waterbodies.

Mōtū Catchment Plan Specific Rules

Rule MŌTŪ – R3: The use of land in the Mōtū Catchment - Farmlands and Settlements FMU as Dairy Support Land and associated discharge of contaminants is a Permitted Activity subject to the following Performance Standards:

1. On a paddock used for dairy support land stock must be excluded from at least:
    a. 10 m away from the top of the bank of the Mōtū River; the Koranga, Karekare, Moanui, Matawai, Murray, Whakapoupakahi, Moutohora and Waiwhero Streams; and any Regionally Significant Wetland; and
    b. 5m from bed of any other river, lake, wetland, or drain (regardless of whether there is any water in it at the time);

Advice Note:

1. This Rule replaces Clause 22 of the Agricultural Intensification Temporary Standards in the NES – Freshwater 2020.

Rule MŌTŪ -R4: The use of land as Dairy Support Land and associated discharge of contaminants is a Discretionary Activity:

1. In the Mōtū Catchment – Te Wai o Ngāhere FMU; or
2. In the Mōtū Catchment – Farmlands and Settlements FMU where this does not meet Permitted Activity Standards

Advice Note:

1. This Rule replaces Clause 23 of the Agricultural Intensification Temporary Standards in the NES – Freshwater 2020.

Rule MŌTŪ – R5: The conversion of land on a farm to a Dairy Farm and any discharge of contaminants into or onto land resulting from the conversion is a Non-complying Activity.

Advice Note:

1. This Rule replaces Clauses 18 and 19 of the Agricultural Intensification Temporary Standards in the NES – Freshwater 2020.

Rule MŌTŪ – R7 The use of land for the expansion of winter intensive grazing beyond the area of the farm that was grazed at the date of notification of the Mōtū Catchment Plan and associated discharge of contaminants in the Mōtū Catchment – Farmlands and Settlements FMU is a Discretionary Activity.

Where: The activity meets the following Performance Standards:

1. the farm has a certified freshwater farm plan that applies to the intensive winter grazing; and
2. at all times, the area of the farm that is used for intensive winter grazing must be no greater than 50 ha or 10% of the area of the farm, whichever is greater; and

3. the mean slope of a paddock that is used for intensive winter grazing must be 10 degrees or less, determined by measuring the slope over any 20m distance of the land; and
4. on a paddock that is used for winter intensive grazing,—
    a. any critical source area must not be grazed; and
    b. vegetation must be maintained as ground cover over all of any crtiical source area and this must not be any cultivation or harvesting of forage crops; and
    c. all reasonably practical steps must be undertaken to minimise freshwater impacts of any pugging that occurs on the land; and
    d. livestock must be kept at least:
        i. 10 m away from the Mōtū River, and the Koranga, Karekare, Moanui, Matawai, Murray, Whakapoupakahi, Moutohora and Waiwhero Streams and any Regionally Significant Wetland; and
        ii. 5m from bed of any other river, lake, wetland, or drain (regardless of whether there is any water in it at the time); and
    e. the land that is used for intensive winter grazing must be replanted as soon as practicable after livestock have grazed the land's annual forage crop

Advice Notes:

1. For the rules in relation to Winter Intensive Grazing established prior to the notification of the Mōtū Catchment Plan the Tairāwhiti Resource Management Plan Rule 6.2.9 (5) applies;
2. This Rule replaces Clause 30 of the Agricultural Intensification Temporary Standards in the NES – Freshwater 2020.

Rule MŌTŪ – R8: The use of land for the expansion of winter intensive grazing not meeting Rule Mōtū – R 7 is a Non-complying Activity.

Advice Note:

1. For the avoidance of doubt all use of land for the expansion of winter intensive grazing in the Te Wai o Ngahere FMU is a Non-complying Activity.

Rule MŌTŪ – R9: The application of nitrogen fertilser to land at rates of more than 100 kg/ha/year and no more than 50kg per application and phosphate fertiliser beyond 40 kg/ha/year is a Discretionary Activity.

6.3. Activities in the Beds of Rivers

Mōtū Catchment Plan Specific Policies

Policy Mōtū – P5 Recognise the very high natural and cultural values and important tuna and trout fisheries of the Mōtū and Koranga Rivers and the directives in the Mōtū Water Conservation Order around damming and diversion of these waterbodies by:

- Prohibiting the permanent damming of the Mōtū River mainstem;

- Allowing for temporary diversion or damming of the Mōtū River and Koranga Stream mainstem only when this is undertaken outside of trout spawning and tuna migration periods;
- Only allowing for damming and permanent diversion of permanently flowing tributary streams in the Mōtū Catchment Plan area:
    - That are outside the area where the Mōtū River Water Conservation Order applies;
    - that are not trout spawning streams;
    - where identified cultural values of mana whenua are not adversely affected;
    - where native fish passage is maintained; and
    - where are no viable locations for the activity outside of the bed of a permanently flowing stream.

Advice Note: This policy is in addition to the policies in Section 6.3.12 Damming and Diversion in the Tairāwhiti Resource Management Plan.

Policy – Mōtū – P6 Recognise that removing of material from the bed or banks of the mainstem Mōtū or Koranga Rivers is liable to exacerbate existing erosion problems. Removal of material from the bed or banks of these rivers should only be undertaken where a geomorphological assessment indicates this activity will not increase rates of erosion of the banks or bed of the river.

Policy – Mōtū – P7 Support the reintroduction of native fish species into the Upper Mōtū Catchment by providing for the construction of weirs which exlude exotic fish species as part of any native fish reintroduction project.

Policy – Mōtū – P8 Support the permanent stock exclusion of stock from riparian margins of the Mōtū and Koranga Rivers and their tributaries with buffers and riparian planting sufficient to:

1. reduce riverbank erosion and increase shading over the waterbody; while also
2. retaining angler access for trout fishing.

Policy -Mōtū – P9 Support the upgrading of stock crossings over the Mōtū and Koranga Rivers and their tributaries to minimise stock access as a key method to reduce E.coli and sediment losses to freshwater within the Mōtū Catchment Plan area.

Mōtū Catchment Plan Specific Rules

Rule MŌTŪ – R10: The extraction of sand, shingle or gravel from the bed of the mainstem Mōtū or Koranga Rivers is a Discretionary Activity. Advice Note: 1. This replaces Rule 6.3.10 (1) of the Tairāwhiti Resource Management Plan which allows for a Permitted level of gravel abstraction in relation to the mainstem Mōtū and Koranga Rivers. Where gravel abstraction is undertaken other than from the maintstem Mōtū and Koranga Rivers, Rule 6.3.10 (1) of the TRMP still applies.
Rule MŌTŪ – R11: The permanent damming of the Mōtū River mainstem is a Prohibited Activity. Advice Note: 1. This rule applies to the length of the Mōtū River and replaces Rule 6.3.13 (4) and 6.3.13 (5) of the Tairāwhiti Resource Management Plan in relation to damming activity. Rules 6 .3.13 (4) and 6.3.13 (5) in relation to diversion or drainage activity will continue to apply.

2. This rule is in relation to permanent damming of the river. The construction of a weir is not the same as a dam, and any application to construct a weir should be considered under the general regional rules of the Tairāwhiti Resource Management Plan.

6.4. Environmental Flows and Levels and take Limits

Minimum Flow for Consented Freshwater Takes	**Monitoring Location for Flow Limit**	**Maximum Allocation Volume**
940 litres/second	Mōtū River at Kotare Station	150 litres/second in the Farmlands and Settlements FMU No allocation (Permitted Takes only) within the Te Wai o Ngahere FMU
Median calculated flow	Koranga River at	30% of the calculated MALF in the Farmlands and Settlements FMU No allocation (Permitted Takes only) within the Te Wai o Ngahere FMU

7. Mōtū Catchment Plan – Action Plan

7.1. Key Actions

Action	Attribute/Problem Being Addressed	Timeframe	Detail
MKAP 1 Develop an Erosion Management Plan for the Mōtū River mainstem	Sediment	By 2023	Using geomorphological principles, develop a reach by reach erosion management plan for the Mōtū River banks and bed that : • responds to variations in bank erosion; and • helps target erosion control measures to priority sections of the river
MKAP 2 Ensure Best Practice Cropping and Breakfeeding Practices in place across the catchment	E.coli, Sediment, Nutrients, Fish values, Mahinga kai, Macroinvertebrates ,	By 2023	Work with Beef and Lamb NZ, Deer NZ and the Catchment Groups to educate farmers around best practice cropping and breakfeeding practices. Council staff engage with landowners in the Koranga Catchment and Whakarau Road/Waiwhero Stream catchment to ensure good compliance with Tairāwhiti Resource Management Plan and NES Requirements.
MKAP 3 Identify and map wetlands within the Mōtū Catchment Plan area	Wetland identification and management	By 2025	Council to ground truth the preliminary modelling work and identify and map all wetlands within the Mōtū Catchment Plan area.
MKAP 4 Stock exclusion from the mainstem Mōtū and Koranga Rivers with minimum 5m setbacks for new fences.	E.coli, Sediment, Nutrients, Fish values, Mahinga kai, Macroinvertebrates	By 2026	Non-regulatory project supporting the existing catchment group to work with landowners to exclude stock from the mainstem of both rivers, including supporting the upgrading of stock-crossings. As new fences are constructed ensure minimum 5m setbacks from the riverbank – or widths as identified in the Erosion Management Plan.
MKAP 5 Plant riparian areas with native plants in priority areas along the mainstem Mōtū and Koranga Rivers	E.coli, Sediment, Nutrients, Fish values, Mahinga kai, Macroinvertebrates , Periphyton,	By 2026	While all riparian planting is good, the Erosion Management Plan is expected to identify top priorities for planting on the Mōtū where the quickest benefits will be felt in terms of sediment control.

Action	Attribute/Problem Being Addressed	Timeframe	Detail
	Threatened Species		Non-regulatory project supporting the existing catchment groups to work with landowners to undertake riparian planting.
MKAP 6 Develop and implement a water quality improvement plan for the Matawai Stream	E.coli, Nutrients, Fish values, Mahinga kai, Macroinvertebrates	By 2026	Plan to be developed by 2023. Implementation of priority measures by 2026.
MKAP 7 Resource Consent Review	E.coli and sediment	By 2026	Review the resource consents for discharges of key contaminants (E.coli and sediment) to ensure that discharges of these contaminants will not further degrade the water quality.
MKAP 8 Stock exclusion from priority wetlands	Threatened species	By 2031	Identify priority wetlands by 2023. NES Stock exclusion requirements apply Non-regulatory project supporting the existing catchment group to work with landowners to exclude speed up stock exclusion from priority wetlands.
MKAP 9 Better point source management	E.coli, sediment, nutrients, mahinga kai	By 2031	Identify point sources as part of Farm Environment Planning. NES and TRMP Point Source Discharge Rules apply. Non-regulatory project supporting the existing catchment group to work with landowners to implement management and treatment of runoff from point sources such as tracks, races, stockyards, fertiliser storage areas and feedpads.
MKAP 10 Periphyton and eutrophication study	Nutrients	By 2031	Undertake a science study which looks at the drivers of periphyton growth within the Mōtū Catchment, the prevalence of Phormidium cyanobacteria and whether the measures in this catchment plan are effective at addressing these. Implement the recommendations of this study as further actions during the review of this Action Plan.

Action	Attribute/Problem Being Addressed	Timeframe	Detail
MKAP 11 Stockwater reticulation to support increased stock exclusion from streams and wetlands	E. coli, sediment, nutrients	By 2035	Non-regulatory project supporting the existing catchment group to work with landowners to develop reticulated stockwater systems to support increased exclude stock exclusion from streams and wetlands.
MKAP 12 Stock exclusion from priority tributary streams	E. coli, sediment, nutrients	By 2035	In conjunction with stakeholders identify priority tributary streams and support the catchment group to work with landowners to exclude stock from these streams.
MKAP 13 Upgrade stock crossings on priority tributary streams	E. coli, sediment, nutrients	By 2035	In conjunction with stakeholders identify priority tributary streams and support the catchment group to work with landowners to upgrade stock crossings over these streams.
MKAP 14 Restoration of priority wetlands	Threatened species, nutrients, sediment, fish values, mahinga kai, macroinvertebrates	By 2035	Support the catchment group to work with landowners to restore priority wetlands within the catchment.
MKAP 15 Plant remainder of the riparian areas along the mainstem Mōtū and Koranga Rivers and along priority tributary streams	E.coli, Sediment, Nutrients, Fish values, Mahinga kai, Macroinvertebrates, Periphyton, Threatened Species	By 2035	Non-regulatory project supporting the existing catchment groups to work with landowners to undertake riparian planting.
MKAP 16 Restocking native fish populations	Ecosystem health, threatened species, fish, mahinga kai	By 2035	Develop and implement a plan to restock native fish missing in the catchment. This could involve for example, relocating fish such as bullies from the base of the Mōtū Falls to a protected area within the Matawai Conservation Area, or suitable habitat in tributary streams of the Mōtū on farms.

7.2. Other Actions – these are actions that would benefit the health of the two awa but for which no timeframe is set.

Action	Attribute/Problem Being Addressed	Detail
MOA 1 Field Days, and Workshops	All	Work with Beef and Lamb and Deer NZ to support local catchment groups hold regular field days and workshops to look at farming best practice, learn about
MOA 2 Wānanga around mahinga kai practices and cultural monitoring	Mahinga kai, ecosystem health, cultural values	Work with local iwi, Matawai Marae and Eastern Whio Link to undertake wānanga around mahinga kai practices and cultural health monitoring of the awa.
MOA 3 Community monitoring, including on farm monitoring	All	Support local catchment groups to work with landowners and schools to undertake on farm and community monitoring of the awa.
MOA 4 Expand use of farm environment plans	All	Work with Beef and Lamb and Deer NZ to support all farmers within the catchment to develop Farm Environment Plans.
MOA 5 Installation of toilet facilities along the Mōtū Trails	E.coli, Mahinga Kai, cultural values	Work with Mōtū Trails Trust to ensure that adequate toilet facilities are provided in appropriate locations on the trails.
MOA 6 Investigation and remedial work at Matawai Landfill	Ammonia, ecosystem health, mahinga kai, trout fishing	Investigate water quality discharge from Matawai Landfill. If water is highly contaminated, undertake remedial work to reduce the size/impact of the discharge
MOA 7 Installation of a stock truck effluent holding tank	E.coli, mahinga kai, nutrients	Establishment of parking bay and effluent disposal tank along SH 2. Aim to help prevent illegal dumping of waste along roadside.
MOA 8 Weed management riparian areas	Threatened species, Ecosystem health	Target weed species that are present in the Farmlands and Settlements FMU and are spreading downstream into the ngahere and protected areas. This includes Japanese Walnut, Montbretia and Strawberry tree as well as weedy willows such as crack and golden willow.
MOA 9 Improvement of On site Wastewater Systems	E.coli, mahinga kai, nutrients	Support landowners to upgrade on-site wastewater systems within the Matawai and Mōtū townships. Tairāwhiti Resource Management Plan Rules apply.

Monitoring Progress and Assessing Trends

Water quality and quantity, aquatic ecosystem health and cultural health monitoring will be undertaken by the Gisborne District Council at the sites identified in this catchment plan.

This will be reported on as part of the wider water quality and quantity reporting undertaken by the Council to meet Section 3.29 freshwater accounting requirements of the NPSFM 2020 and as part of its State of the Environment Reporting.

The key attributes with priority for monitoring progress in the Mōtū Catchment Plan area are:

- Deposited Fine Sediment
- Suspended Fine Sediment
- E.coli
- Periphyton (including Phormidium cyanobacteria)
- Dissolved Reactive Phosphorus
- Aquatic ecosystem health attributes – MCI and QMCI
- Fish

Principal methods for monitoring progress towards achieving target attribute states and environmental outcomes will be through the State of Environment water quality, aquatic ecosystem health and hydrology programmes undertaken by the Gisborne District Council.

This programme will involve:

1. monthly water quality monitoring of sites identified in this catchment plan for the following attributes:
    a. periphyton
    b. ammonia
    c. nitrate
    d. suspended fine sediment
    e. E. coli
    f. dissolved reactive phosphorus
    g. total nitrogen
    h. dissolved inorganic nitrogen
    i. identified, with the addition of periphyton monthly monitoring and the exception of ecosystem metabolism which will be monitored annually.
2. Annual aquatic ecosystem monitoring will be undertaken at the sites identified in this catchment plan for the following attributes:
    a. Fish
    b. Macroinvertebrates (MCI, QMCI, ASPM)
    c. Deposited fine sediment
    d. Ecosystem metabolism
    e. Dissolved oxygen
3. Cultural monitoring in conjunction with mana whenua in accordance with regionally agreed protocols and methods.

7.3. Responding to degradation

Trends in relation to degradation or improvement will be identified using a rolling 5 year assessment of the previous 5 years compared with the baseline set in this Catchment Plan.

As part of implementing the wider Tairāwhiti Freshwater programme, a 5 yearly review of the Action Plan of this catchment plan will be undertaken with an assessment against the water quality trends.

If current degrading trends are not halted by the time of the first 5 year assessment and review (2027) then the Council will consider whether additional regulation may be required to ensure that the targets to halt and turn around degradation are met.

If there are new degrading trends are identified, then the causes of these will be investigated. If the trends are identified as being caused by land use or water management

practices within the catchment, that are not sufficiently regulated, then additional regulation will be introduced through a Plan Change.